Exhibit 13B

Letter from Captain Mohsen El Missiry, dated 7/27/00,
Egyptian Delegation comments on
Group Chairman's Aircraft Performance Study

5 pages

July 27, 2000

Mr. Greg Philips
National Transportation Safety Board
490 L'Enfant Plaza, S.W.
Washington, D. C. 20594-0003

Dear Mr. Philips

Please find attached herewith the Egyptian Delegation comments regarding " Group Chairman's Aircraft Performance Study by John O'Callahan" dated May 4, 2000

It is requested that this letter to be included in the docket.

Sincerely,

Captain/Mohsen El Missiry
Chief of Egyptian Investigation Committee

(1)

July 27, 2000

Egyptian Delegation comments regarding "Aircraft Performance, Group Chairman's Aircraft Performance Study by John O'Callahan" dated May 4, 2000:

Ref:

- Performance Group review Meeting on July 19, 2000
- Egyptian Delegation corrections dated June 6, 2000 required to be considered in the "Aircraft Performance, Group Chairman's Aircraft Performance Study by John O'Callahan dated May 4, 2000 ".

The following are the Egyptian Delegation comments regarding the above mentioned Performance Study:

- Page 3, contains the following statement :
  "the small size of the aircraft parts found in both debris fields are consistent with the airplane fragmenting upon impact with the water at a high speed and steep impact angle" is not supported by any evidence. Is the level of fragmentation found in both debris fields the same? There is no evidence referred to in the report that addresses this. In addition, no explanation was made for why one engine was found 1200 feet away from the main wreckage site. The ocean currents in the area of the wreckage are not shown in the study report, so it is not clear whether the distance between the two wreckage locations is due to drift from the surface to the final depth of 250 feet or the left engine separating from the fuselage before impact. When, where, and why this separation occurred are important aspects of this accident investigation and should be explored.

  Egyptian Delegation requests the following:
  - Deletion of the phrase "the small size of the aircraft parts found in both debris fields are consistent with the airplane fragmenting upon impact with the water at a high speed and steep impact angle" as it is not supported by any evidence and addresses only one probable cause for this wreckage condition.
  - An answer for the question ". When, where, and why the airplane separation occurred". These present important aspects of this accident investigation.

- On page 8, the primaries recorded by the RIV site were discussed and were explained as frequency interference. If this is true, that interference would be present any time the two interfering radars are active. Is that interference shown in all other times? Is there any documentation supporting the study of this interference. Why are these returns shown at 60,000-70,000 feet?

- On page 11, the statistical analysis performed to compare the estimated altitudes recorded by the ARSR-4 radar with Mode C transponder returns was discussed. This is an important part of the analysis of the last few minutes of the flight; therefore, the data used in the statistical analysis is requested to be made available.

(2)

- On page 16, the wind data from Upton is identified as the one used in the performance parameter calculations. Upton is approximately 145 nautical miles west of the accident site. In addition, these data were recorded more than five hours after the accident. The other wind data that were mentioned were from Chatham, MA. Chatham is approximately 85 nautical miles from the accident site. Why were the Upton data used instead of the Chatham data? Both were recorded five hours after the accident; however, Chatham was closer and, with weather phenomena normally moving from west to east, it seems that Chatham would be more representative as well. Although the Altitude corrections were close, the wind values were not the same. The wind is a very important element in the calculation of the Mach number. At the time of the maximum calculated Mach number, the winds at Upton were westerly at ~46 knots and at Chatham, they were westerly at ~27 knots. If Chatham winds were used, the maximum calculated true airspeed would have been almost 20 knots higher, and the maximum Mach number would have been over 1. Because of the importance of the winds to the calculation of the Mach number, it is important to address this topic carefully.

- On page 41, Figure 2b, the radar returns do not lead directly to the east debris field. This discrepancy must be resolved. Either the ocean current carried the wreckage or the radar data needs to be adjusted. In addition, the returns shown in the ASR9 primary data do not show a consistent flight path. This inconsistency should be explored

- On page 64, Figure 13b, the Mach Number is calculated. No mention was made of the changes in airplane performance and control at high Mach numbers. Even if the airplane never exceeded the speed of sound, local shocks were formed on cambered surfaces throughout most of the dive. If the Mach number of the airplane is close all higher than 1, the behavior of individual control surfaces as well as the airplane itself could be significantly changed. What are the stick forces per g at Mach 1+? What are the drag forces on a windmilling engine at these high speeds? The answers to these questions could play an important role in the accident investigation.

- From the strictly factual perspective, all the primary returns used after the end of the transponder transmission, can not positively be identified as belonging to MS990 flight or any other flight. All results based on these primary returns are under question.

- CVR-DFR overlay is still under review with "Sound Spectrum Group Chairman"

- With reference to the FDR data, Radar data and the Egyptian Delegation data processing, Egyptian Delegation believes that the study conclusion in pages 20-22 of the Performance Study should be modified and read as follows:

E-CONCLUSION:

This study presents the radar and DFDR data available for EgyptAir Flight 990, and describes additional airplane performance information derived from these sources. The

(3)

radar, DFDR, and derived data indicate that the following sequence of events occurred during the final minutes of the flight:

The airplane was initially cruising at 33,000 feet and Mach 0.79 on a magnetic heading of about 80 degrees. At about ET = -15 seconds (06:49:45 UTC), the autopilot disconnected, but aside from starting a slow, 0.5 degrees/second roll to the left, the airplane remained straight and level for approximately 5 seconds. At about ET = -7 seconds, the left and right throttles were retarded to minimum idle at a rate of about 22 degrees/second. The maximum rate of throttle movement that can be commanded by the auto throttle system is 10.5 degrees/second. About four seconds after the start of the throttle movement (ET= -3), the left elevator panel moved to about 3 degrees in the trailing edge down (TED) direction and the right elevator panels moved to about 3.7 degrees in the trailing edge down (TED) direction. At ET = -14 seconds, the pitch angle started to decrease at an initial rate of about 0.35 degrees/second, then it was changing until reaching 40 degrees nose down at ET=15 seconds.

During the dive, the airplane roll changed to about –10.7 degrees at ET = 5 seconds, then the roll was decreased to about zero degree at ET = 19 seconds. The heading changed remained about 80 degrees, increasing to about 85 degrees between ET= 21 and 33 seconds

At ET = 6 seconds, the left and right elevators reached 3.7, 4.4 degrees TED respectively. Prior to this point, the normal load factor had been about 0.1 g's; after this point, the load factor decreased to about -0.1 g's. During this time, between ET = 6 and 12 seconds, the "Low Engine Oil Pressure" discretes on both the left and right engines activated. These discretes remained activated until sometime between ET = 18 to 23 seconds. At ET = 15 the normal load factor increased above zero.

At about ET = 8 seconds and about 30,200 feet, the Mach number exceeded the maximum operating Mach number (0.86) and the Master Warning alarm sounded. At ET = 23 seconds, the Mach number reached a peak value of 0.99 at an altitude of about 22,300 feet. The maximum rate of descent during the dive was about 44,000 feet/minutes at ET = 19 seconds and an altitude of about 23,000 feet.

At ET = 14 seconds and altitude 26,800 feet, the left and right elevator panels started to move slowly (at about 0.4 and 0.5 degrees/second respectively) trailing edge up (TEU), back towards their neutral position.. The pitch angle and normal load factor also started to increase at this point. The angle of attach started to increase at ET= 9. So that, by the end of the DFDR data at ET = 37 seconds the pitch angle became about 8 degrees nose down, and the airplane was experiencing about 2.4 g's in the recovery.

During this time, at ET = 21 seconds, the left and right elevator panels started to "split" or move asymmetrically. The right elevator panel reversed direction and started to move trailing edge down, while the left elevator panel continued to travel trailing edge up. The split between the left and right elevators continued to the end of the data, varying in magnitude but averaging about 4 degrees difference between the panels.

Between ET = 21 and 22 seconds, the engine start lever switches for both engines moved from the "Run" to the "Cutoff" position. At ET = 24 seconds, both throttle levers moved full forward. Between ET = 25 and 26 seconds, the speedbrake handle moved to its fully deployed position. Coincident with this activity, between ET = 24 and 27 seconds, the left elevator panel moved briefly in the trailing edge down direction, from 3 degrees TEU to 1 degree TEU, before moving back up to 3 degrees TEU.

The DFDR data ends at ET = 37 seconds. The last transponder return from the airplane was received at about ET = 34 seconds. Performance calculations based on primary radar returns indicate that the airplane recovered from the dive at about 16,000 feet, climbing back to about 24,000 or 25, 000 feet at ET = 75 seconds. During this climb, the airplane heading increased above 80 degrees

After ET = 75 seconds, the airplane started a second dive that continued until impact with the ocean about 54 NM South and 14 NM East of the Nantucket ASR-9 radar antenna.

There are only seven primary returns from the airplane during the second dive, and the altitude estimates returns suffer from potentially large errors. These difficulties introduce a significant amount of uncertainty into the performance calculations during the second dive. However, the data appears to indicate impact with the ocean at about ET=150 seconds. Impact at this time requires an average descent rate during the second dive of about 20,000 feet/minute.

This study describes the motion of EgyptAir Flight 990 during the accident sequence, but does not address the underlying causes of that motion.

M. Hamdy

Mohamed A. Hamid Hamdy
Aero Engineer- Egyptian Delegation

(5)